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A new species of *Phyllachora* on *Cyperaceae*

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Abstract—*Phyllachora caricis-jaluensis* sp. nov. on *Carex jaluensis* (*Cyperaceae*) is reported. Latin diagnosis and illustration of the new species are provided. The type specimen is deposited in the Herbarium Mycologicum Universitatis Agriculturalis Boreali-Occientalis (HMUABO).

Key words—*Sordariomycetidae,* identification, taxonomy

Introduction

A new species of *Phyllachora* on leaves of *Carex jaluensis* from Zhejiang province was collected in 1980. Only four species of *Phyllachora* have been previously recognized in genus of *Carex*: *P. baldensis* Petr. (Petrak 1929: 399–400), *P. lapponica* Petr. (Petrak 1936: 448–449), *P. tirolensis* Petr. (Petrak 1947: 320–321) and *P. sphaerospora* Pat. (Patouillard 1887: 126). The new species of *Phyllachora* reported here is distinguished from four earlier named species by the ovoid to (rarely) ellipsoidal shape of its ascospores.

Phyllachora caricis-jaluensis H.J. Lu & T. Zhang, **sp. nov.** **Fig. 1**
MycoBank MB512236

Maculis nullis. Stromatibus amphigensis, gregariis v. rarius discretis, irregularibus, atris, fuligineis, nitidulis, 0.1–0.5 × 0.2–1.5 mm. Peritheciis in mesophyllis, 2–4 aggregatis,

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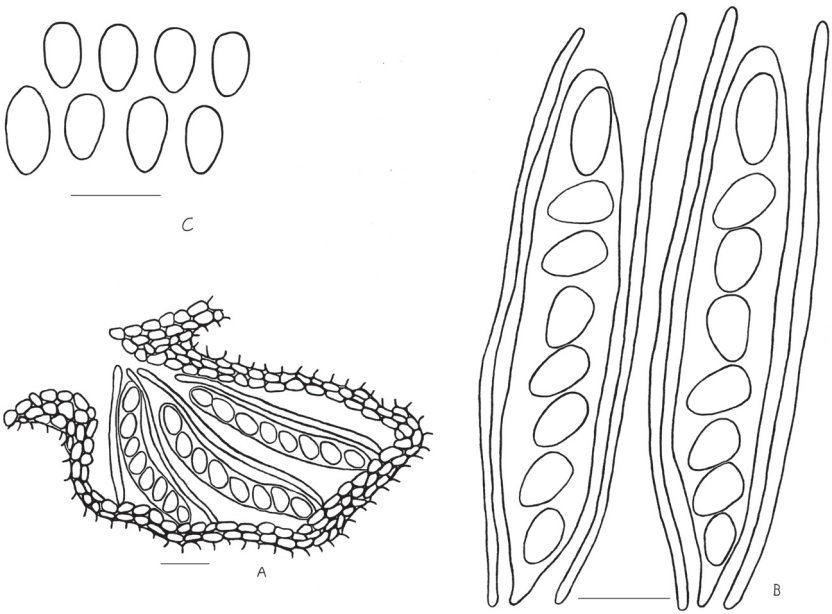

Fig.1.A: Ascoma, paraphyses, asci and ascospores of *Phyllachora caricis-jaluensis*;
B: Paraphyses, asci and ascospores of *Phyllachora caricis-jaluensis*;
C: Ascospores of *Phyllachora caricis-jaluensis*.
Scale bars: A=20μm; B, C = 10 μm.

irregularibus, pertusis, 112.2–142.8 × 71.4–122.4 μm. Paraphysibus filiformibus, aseptatis, longioribus.Ascis cylindratis, octosporatis, 51.4–76.6 × 10.3–12.9 μm, av. 61.8 × 11.7 μm, a = 8, brevitibus stipitibus, 3.9–12.3 ×3.9–4.6 μm . Ascosporidiis ovoideis vel. rarius ellipsoideis, irregulariter monostichis, unicellularibus, hyalinis, 7.7–12.9 × 4.6–7.7 μm, av. 9.9 × 5.4 μm, a = 30.

Anamorph: not seen.

Teleomorph: Parasitic on leaves of *Carex jaluensis* Kom., forming subepidermal clypeus, aggregated, rarely sparse, irregular, 0.1–0.5 × 0.2–1.5 mm, shining black, clypeus may be visible from both sides of the leaves. Ascomata immersed in the upper epidermal layer of the leaves, 2–4-loculate, irregular, the ostiole conspicuous, 112.2–142.8 × 71.4–122.4 μm. Paraphyses filamentous, aseptate, longer than asci. Asci cylindrical, 8 ascospores, 51.4–76.6 × 10.3–12.9 μm, av. 61.8 × 11.7 μm, a = 8, short pedunculate 3.9–12.3 × 3.9–4.6 μm. Ascospores ovoid, rarely ellipsoid, arranged uniseriate, one-celled, hyaline, 7.7–12.9 × 4.6–7.7 μm, av. 9.9 × 5.4 μm, a = 30.

Specimens examined-On living leaves of *Carex jaluensis,* Tianmushan, Zhejiang, China, alt. 600m, 5 XI 1980, J. Y. Li & T. Y. Zhang, No. 44252, HMUABO 44544 (Holotype).

Discussion

The ovoid ascospore shape differentiates *Phyllachora caricis-jaluensis* from *P. baldensis* and *P. tirolensis,* which are diagnosed by fusiform ascospores. The ovoid shape and smaller sized spores separate the new species from *P. lapponica*, which is characterized by large (18–25 × 7–9 µm), oblong ascospores. *P. caricis-jaluensis* differs from *P. sphaerospora* in having ovoid ascospores, while the latter has spherical ascospores. Comparison of the new species with the four other *Carex*-associated species is provided in TABLE 1.

TABLE 1. Comparative morphology of *Phyllachora* species on *Carex*

Phyllachora species	HOST	ASCI (µm)	ASCOSPORES (µm)	REFERENCE
P. baldensis	*Carex baldensis*	70–80 × 10–12 —	12–20 × 3.5–5 fusiform	Petrak 1929
P. lapponica	*Carex panicea*	75–90 × 12–17 clavate or fusiform	18–25 × 7–9 oblong or ellipsoidal	Petrak 1936
P. tirolensis	*Carex firma*	45–60 × 9–11 clavate	15–20 × 3.5–5 fusiform or oval-oblong	Petrak 1947
P. sphaerospora	*Carex* sp.	80–100 × 15 cylindrical	10 spherical	Petrak 1936
P. caricis-jaluensis	*Carex jaluensis*	51.4–76.6 × 10.3–12.9 cylindrical	7.7–12.9 × 4.6–7.7 ovoid rarely ellipsoidal	this paper

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